

ART

PRO/verb

MIDI and effects

INTRODUCTION

The ART ProVerb establishes a new milestone in the area of high quality cost effective professional digital reverberation. Packed in a single high rack are 100 presets covering the full range of natural stereo reverberation and a variety of special effects. All controls and PRESET information are available on the front panel for permanent rack mounting with remote control via MIDI.

The ProVerb is a true digital signal processor designed specifically for fast and accurate audio signal processing. Its unique internal architecture lets the ProVerb perform more complex calculations per instruction at a rate of 6 million per second!

INSTALLATION

The ProVerb may be used in a variety of setups including: mixing consoles with reverb send and return facilities, directly in line between a musical instrument and amplifier, in the effects loop of an amplifier. Self contained in an all steel single high 19" rack mount case, the ProVerb is designed for continuous professional use. For touring rack applications, care should be taken to support the units rear if the rack might be subjected to mechanical shock. Mounting location is not critical, but for greater reliability we recommend that you not place the unit on top of power amps, tube equipment, or other sources of heat.

All audio connections to the ProVerb are made at the rear of the unit via professional 1/4" phone jacks. The MIDI connection is accomplished via a five pin "DIN" jack on the rear.

The LEFT and RIGHT inputs are single ended with an impedance of 47K ohms. True stereo processing is accomplished by using both inputs in a left/right application. If only one input is used, the signal is automatically routed to both channels.

The LEFT and RIGHT outputs are single ended with a source impedance of 1.5K ohms, and can provide a stereo or mono output. When a true stereo signal is applied to the inputs, the resulting output is true stereo. If both outputs are used with a mono input signal, a stereo image is produced. Using one output with a mono or stereo source provides a mono signal combining the reverberant information from both outputs. If you do not want both output signals combined, plug a dummy plug into the unused output.

CONTROLS AND OPERATION

Front panel LED indicators show the input signal level at all times. For maximum dynamic range the -12 LED should be on most of the time with the 0dB LED briefly flashing on transients only.

The UP and DOWN buttons on the front panel are used to select PRESETs. Holding either button down will step you through all 100 PRESETs at a moderate rate. You can step at a much quicker rate, first press and hold the button that is in the direction that you want to go, then simultaneously press the other button. As long as both are pressed the display will increment much faster.

Pressing the BYPASS button kills the effects signal in the mix and shows [- -] in the display. Pressing BYPASS again returns the unit to the previous PRESET. The MIX control varies the amount of effect signal in the output from dry only to effect only. The ProVerb comes up in OMNI mode when powered on, allowing it to receive MIDI PROGRAM numbers on any MIDI channel. To select a specific MIDI channel, momentarily press the MIDI CHAN button and use the up/down buttons to change the selected channel. The right decimal point will be on whenever the display is showing MIDI CHAN.

50 Presets are devoted to natural reverberation, covering a wide range from extremely short .2 second decays to larger than life 25 second decays. A variety of algorithms are used to simulate a wide range of environments. Within the other 50 Presets are 10 Gated Reverb effects, 10 Reverse Reverb effects, 10 Chorus and flanging effects, 10 Echo effects and 10 delay based effects. Within each section are a variety of related effects, not just bigger or smaller versions of the same. Some of these effects would normally require multiple pieces of equipment to create.

MIDI

PRESETS may be accessed at the front panel or remotely via MIDI. When the ProVerb receives a MIDI PROGRAM number, it recalls a PRESET. If the ProVerb was in BYPASS, it will become active. The PRESET it recalls is determined by a table that equates MIDI PROGRAM numbers to PRESET numbers. This table is called the MIDI PROGRAM TABLE (MPT). On power up, MIDI PROGRAM numbers equal the PRESET numbers, however, you can reassign any MIDI PROGRAM number to any PRESET number. The ability to reassign MIDI PROGRAM numbers makes the ProVerb much more practical when using MIDI in simple setups. We will refer to the MIDI PROGRAM number as the MIDI number in the following.

The MPT may be edited from the front panel either alone or with a keyboard or controller that can send MIDI numbers. To enter MPT edit mode, momentarily press the MIDI CHAN and BYPASS buttons simultaneously (Pressing MIDI CHAN first then BYPASS will have no effect on the current BYPASS state, pressing BYPASS first toggles the current BYPASS state). Press MIDI CHAN and BYPASS again to stop editing the MPT and return to normal front panel operation.

When MPT edit mode is entered, the LEFT decimal point will be blinking indicating that the display is showing a MIDI number. If BYPASS is then pressed, the RIGHT decimal point will be blinking and the display will be showing a PRESET. If MIDI CHAN is pressed the left decimal point will blink again indicating the return to the MIDI number in the display. The UP/DOWN buttons are used to change the numbers in the display. When a MIDI number message is received, the corresponding PRESET number in the table will be recalled. Multiple MIDI numbers may have the same PRESET number. When the MIDI number is changed with the UP/DOWN buttons, the PRESET number will change to reflect the corresponding PRESET. The following examples illustrate editing of the MPT from the ProVerb alone (Example 1) and with a keyboard or external controller (Example 2).

EXAMPLE 1:

In this example, we will edit the MPT so that when MIDI numbers 1 and 2 are received, ProVerb PRESETS 16 and 37 will be recalled. It is assumed that the ProVerb has recently been powered on.

Press and hold MIDI CHAN, then BYPASS buttons, release both. The display will show [0.0] with the decimal point blinking indicating that you are in MPT edit mode, this left decimal point means that the MIDI PROGRAM number is in the display.

*-Press and release UP. The display shows [0.1] indicating we are at MIDI number 1 in the table.

*-Press and release BYPASS. The display shows [01.] indicating that MIDI number 1 recalls PRESET 1.

*-Press and hold UP until [16.] appears in the display. Now MIDI number 1 will recall PRESET 16.

*-Press and release MIDI CHAN. The display shows [0.1]

*-Press and release UP. The display shows [0.2]

*-Press and release BYPASS. The display shows [02.] indicating that MIDI number 2 recalls PRESET 2.

*-Press and hold UP until [37.] appears in the display. Now MIDI number 2 will recall PRESET 37.

*-Press MIDI CHAN and BYPASS to exit MPT edit mode. The display shows [37] indicating the last PRESET referenced is the current PRESET selected.

During the above example, anytime a MIDI number is changed or PRESET number is changed, the ProVerb recalls the corresponding PRESET. This allows you to listen to the PRESETS change as the MPT is edited.

EXAMPLE 2:

When used with a keyboard or other device that will send MIDI PROGRAM CHANGE messages, MPT editing may be simplified. As in the previous example, we will edit the MPT so that when MIDI numbers 1 and 2, are received, PRESETS 16 and 37 will be recalled. It is assumed that the ProVerb has recently been powered on again.

The keyboard MIDI OUT must be connected to the ProVerb MIDI IN jack. The MIDI CHAN on the ProVerb must be set to the same channel that the keyboard will be sending messages on, or the ProVerb MIDI CHAN must be set to [AL.] for OMNI mode.

Press and hold MIDI CHAN, then press BYPASS. The display will show [0.0] with the decimal point blinking indicating that you are in MPT edit mode, this left decimal point means that the MIDI PROGRAM number is in the display.

Select a patch on the keyboard so that a [0.1] appears in the display. This may not be sound 1 or patch 1 on the keyboard. Manufacturers number their presets in a variety of ways. The patch that causes [0.1] to appear in the display is usually the first or second patch of the lowest numbered bank if the keyboard has banks of patches.

*-Press and release BYPASS. The display shows [01.] to indicating

that MIDI number 1 recalls PRESET 1.

*-Press and hold UP until [16.] appears in the display. Now MIDI number 1 will recall PRESET 16.

To program the rest of the entries, you do not need to switch back to the MIDI number. You can let the unit remain showing the PRESET number.

*-Select the next patch on the keyboard. The display will show [02.] to indicate that it recalls PRESET 2.

*-Press and hold the UP button until [37.] appears in the display. Now the last patch number activated will recall PRESET 37.

Using this method of editing, you select the desired patch on the keyboard, and then select the desired PRESET on the ProVerb for that sound. You can do this while you are listening to the ProVerb. Exit MPT mode as in the previous example.

In the previous examples only two of the MPT entries were edited, however, you may edit the entire MPT if desired.

MIDI technical information as well as the MIDI IMPLEMENTATION CHART is available directly from ART, contact Customer Service at (716)436-2720.

MISCELLANEOUS

On power up, the ProVerb indicates its software revision level in the display (eg. 1.0). The ProVerbs software is contained in a socketed EPROM and is field replaceable. This software controls the ProVerbs functions as well as its sounds. Contact our Customer Service department requesting that you be notified of any ProVerb updates, please include your serial number.

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SPECIFICATIONS

Presets	100 total (00-99)
MIDI Receive Chan	1-16, OMNI (All)
MIDI Programs	0-99, may be assigned to any PRESET #
Connections	stereo in/out 1/4" phone, MIDI IN
Operating Level	-10 dBV nominal, 0 dBV max.
Input Impedance	47K ohms single ended
Output Impedance	1.5K ohms single ended
Bandwidth	30 kHz dry , 10 kHz effect
Dynamic Range	80 dB typical
Mechanical	1.75" high, 19" wide, 10" deep, steel case
Power Requirement	117 Volts AC, 60 Hz, 16 VA, internal fuse
	Export unit configured for destination country

PRESET#		NAME	PRESET#		NAME
00	0.2sec	tight plate	50	Gated	200ms sloped
01	0.2	tight wide plate	51	Gated	300ms sloped
02	0.3	deep plate	52	Gated	400ms sloped
03	0.3	loose plate	53	Gated	500ms sloped
04	0.4	wide plate	54	Gated	600ms sloped
05	0.4	open plate	55	Gated	200ms flat
06	0.5	loose wide plate	56	Gated	300ms flat
07	0.5	open plate	57	Gated	400ms flat
08	0.6	medium tight plate	58	Gated	600ms flat
09	0.6	loose plate	59	Gated	300ms mono sparse
10	0.7sec	large wide plate	60	Reverse	200ms strong tail
11	0.8	large open plate	61	Reverse	300ms strong tail
12	0.9	large tight plate	62	Reverse	400ms strong tail
13	1.0	large dull plate	63	Reverse	500ms strong tail
14	1.1	small close room	64	Reverse	600ms strong tail
15	1.2	small tight room	65	Reverse	200ms normal
16	1.3	small room	66	Reverse	400ms normal
17	1.4	small dull room	67	Reverse	600ms normal
18	1.5	closed room	68	Reverse	300ms swell
19	1.6	bright room	69	Reverse	600ms swell
20	1.7sec	close room	70	Flange	stereo
21	1.8	bright room	71	Flange	stereo some regen
22	1.9	dull room	72	Flange	stereo more regen
23	2.0	close bright room	73	Flange	slow long
24	2.1	open bright room	74	Flange	fast long
25	2.2	medium bright room	75	Chorus	wide slow
26	2.3	wide medium room	76	Chorus	wide fast
27	2.4	medium dull room	77	Chorus	long
28	2.5	close warm room	78	Choir	small
29	2.6	open warm room	79	Choir	large
30	2.7sec	bright room	80	Slap	40ms, 50ms
31	2.8	warm room	81	Slap	60ms, 70ms
32	2.9	dull room	82	Slap	100ms, 110ms
33	3.0	large piano room	83	Echorec	
34	3.1	close harsh room	84	Echo	160ms, 80ms
35	3.2	medium warm room	85	Echo	300ms, 150ms
36	3.4	large bright room	86	Echo	400ms, 200ms
37	3.6	large warm room	87	Echo	500ms, 250ms
38	3.8	larger room	88	Echo	600ms, 300ms
39	4.0	larger warm room	89	Bouncing	Ball
40	5.0sec	larger bright room	90	Percussive	Flange, fast
41	6.0	warm open hall	91	Perc.	Flange zero attack
42	7.0	close warm hall	92	Perc.	Flange slow
43	8.0	large warm hall	93	Perc.	Flange with drone
44	9.0	large dull hall	94	Reverb	with 75ms delay
45	10.0	large open hall	95	Reverb	with 150ms delay
46	12.0	bright open hall	96	Gated	with delay
47	15.0	warm open hall	97	Stereo	image, early ref.
48	20.0	dull open hall	98	Stereo	image, no mono
49	25.0	back of the hall	99	Mute	